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ABSTRACT

Higher education and learning calls for a human process, an interaction between facilitator and learner. A customized approach to individualized problems is more than just electronic delivery. The crucial issue is not the mode of delivery, but the skills required to facilitate learning. Unfortunately, evidence of a subtle re-definition of education and instruction seems to emerge in some quarters, a re-definition that leans toward information delivery rather than education. Facilitators live under an impression that the necessary information is available and yet learners do not utilize opportunities to expectation. The problem can be that the message received is not an exact replica of the intended message originally sent. The "noise" accumulated during "transmission" obscures the true value of the 'signal'. Fortunately an increased awareness is growing to identify best practice in terms of learning facilitation in the new technologically enriched environment. To address this issue requires more than technical competence. This paper acknowledges that a combined approach is called for and proposes a framework within which the role of the e-options can find its rightful niche within the realities of modern educational practice once the current "signal to noise ratio" has been modified to send clear messages. The paper highlights contributing factors; identifies methods by which behavior can be understood; and eludes to key concepts to be aware of when approaching technologically enhanced education. Includes four figures. (Contains 10 references.) (Author/AEF)

TO MAKE E-LEARNING WORK, SEND CLEAR MESSAGES!

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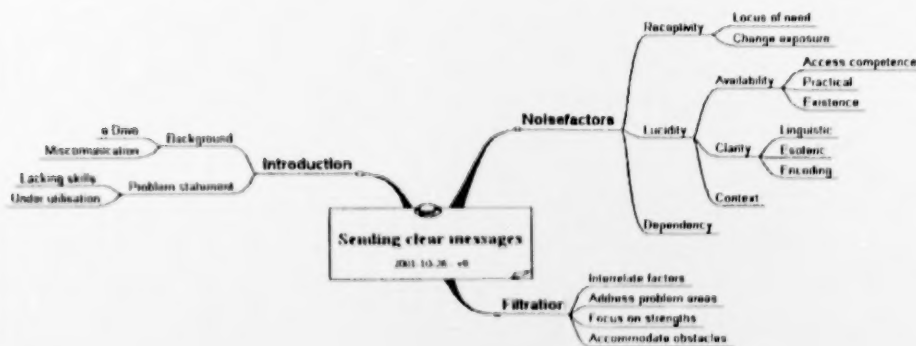
Abstract

All too often, a need is seen as e-need. Higher education and learning however calls for a human process, an interaction between facilitator and learner. A customised approach to individualised problems is more than just electronic delivery. The crucial issue is not the mode of delivery, but the skills required to facilitate learning. Unfortunately, evidence of a subtle re-definition of education and instruction seems to emerge in some quarters, a re-definition that leans toward information delivery rather than education.

Facilitators live under an impression that the necessary information is available and yet learners do not utilise opportunities to expectation. The problem can be that the message received is not an exact replica of the intended message originally sent. The 'noise' accumulated during 'transmission' obscures the true value of the 'signal'.

Fortunately an increased awareness is growing to identify best practice in terms of learning facilitation in the new technologically enriched environment. To address this issue requires more than technical competence. This paper acknowledges that a combinational approach is called for and proposes a framework within which the role of the e-options can find its rightful niche within the realities of modern educational practice once the current 'signal to noise ratio' has been modified to send clear messages.

Visual overview



1. Introduction

1.1 Background

There are no quick fixes in education. Arguments given here are not intended to be universal recipes for success. Neither are they aimed at defining simplistic solutions. This paper aims to:

- ✓ highlight contributing factors;
- ✓ identify methods by which behaviour can be understood; and
- ✓ allude to key concepts to be aware of when approaching technologically enhanced education.

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1.2 Problem statement

The problem is discussed under the following headings:

- ✓ e Drive: technology chasing
- ✓ Miscommunication: One-way decontextualised information flow
- ✓ Lacking skills: Faculty not trained educators
- ✓ Under utilisation: Tools and opportunities available not used

2. Noise factors

2.1 'Receptivity'

Receptivity is a term used to indicate the degree to which individuals would be willing to participate out of free will. Some may see this as another opportunity for technology to provide solutions (Shih & Sorcinelli, 2000), but increased time commitment and lack of money were the top *barriers* to electronic delivery of education as identified by Berge & Muilenberg (2000). Simplistic solutions of throwing technology at problems do not have a realistic chance of succeeding.

To explore factors impacting on the likelihood of succeeding, one needs to first determine to what extent your audience would be susceptible to change interventions.

2.2 Factors influencing receptivity

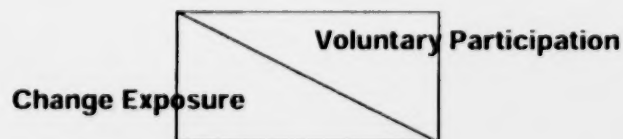
The first dimension to receptivity is the locus of apparent need. Should change agents offer interventions on issues that perceived as valuable in order to address an immediate need, individuals would be more likely to participate. Another factor impacting on the receptivity deals with the effect of change on individuals and their ability to deal with change in a manner that is constructive. Brock & Salerno's 1993 change cycle is valuable reading in this regard.

People who should find themselves in the early stages of the change cycle, experience feelings that will prohibit them from utilising the opportunities to work through those changes. The feelings of people who are experiencing the first three stages of change namely loss, doubt or discomfort, are not the type of feelings that foster thoughts conducive to the types of actions that will bring people to volunteer for developmental activities.

Receptive attitudes are fertile ground and add value to co-operative learning environments. This correlates with the high value rating respondents gave to networks and peer support.

Change per se can therefore not be identified as the sole determinant of whether people will utilise the opportunities for development or not. The key factor is the reaction to the change and the resulting attitudinal position within the change cycle.

Unless learners are made aware of this impact of change on their attitudes, their natural reactions to change therefore would indicate an inverse proportionality between the likelihood of volunteering participation and their exposure to change.



Lucidity

2.4.1: Availability

Some pieces of information are just not available. Non-existence is one form of not being available, but there is a magnitude of information that is available in the sense of existence, but possibly not available for lack of access. Factors like fire walls, privacy and language come to mind together with instances where information was not properly recorded in the first place like the techniques used to create many of the Seven Wonders of the World. Breivik moves beyond the issue of media as prime determinant of access. "...But where most politicians see the problem as one of access to computers and the Internet, a growing number of leaders in higher education see it more as an issue of literacy — information literacy (Breivik, 2000)."

For the purpose of this paper, availability is representative of the combination of three interdependent elements of availability namely:

- ✓ Ability of the individual to utilise opportunities;
- ✓ Practical accessibility of the information; and
- ✓ Existence of applicable information.



2.4.2: Clarity

Unless instructions and or guidelines are understood properly, their impact would be limited proportionally to the lack of clarity.

The problem of clarity is not limited to everyday language issues. Subject specific terms and layout can also reduce clarity. See <http://lme.mankato.msus.edu/class/629/dhmo.html> for an example. The fact that information is available does not guarantee that the true meaning will be clear to all.

2.4.3: Context

The University of Pretoria currently has a (recently improved) maximum Internet bandwidth of 5Mbps. Compare this to the 155Mbps that Dutch institutions have for international Internet access and the staggering 622Mbps link available between some universities! (Steyn, 2001).

While the merits of global competition are not the issue here, the need for adoption of theorems for local conditions and context becomes apparent.

2.5. Dependency

Professor Robert Kraut from Carnegie Mellon University caused a stir some three years ago when he reported his findings. His studies revealed that the social networks of heavy Internet users declined and that they reported feeling of loneliness (Kraut, 1999). Now he seems to have results from a follow up study that contradict his earlier findings (Guernsey, 2001).

When it comes to group dependence and the adoption or rejection of technological options individual characteristics like learning style preferences will come into play.

2.5.1: Learning style preference

All individuals do not work in groups as a result of choice. Social learning style preferences differ. Kneak (2001) distinguishes between individual & group learners. The intention is not to say that individual learners cannot function well in a group, but their natural choice would not be to be dependant on others.

2.5.2: Dependency impact

The preference of the target audience for either individually or group centred approaches are not crucial to the success of technology as a factor in facilitating learning. This is because there are various technical options available that can accommodate either preference. What is important though is that facilitators take note of these factors, provide alternatives and accommodate the individual differences.

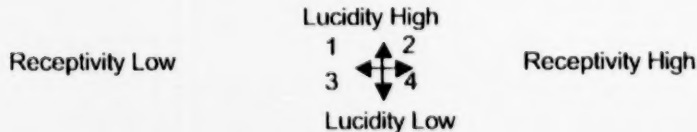
Dependency is not sufficiently crucial to singularly determine success. Important though, to keep its implications in mind. A metaphorical way of thinking about dependence could be to compare it to a flat surface. Nowhere higher or 'better' than anywhere else, yet representative of a whole open area of positions and possibilities.

3. Filtration

In order to create a visual model and enhance understanding, the quality of communication can be improved or 'filtered' by interrelating these issues.

3.1 Receptivity and Lucidity

Plotting these two factors against each other creates four quadrants.



This first quadrant is the one where barriers need to be broken. To only make information available would not be likely to add major value, as individuals low on receptivity, would not be likely to conscientiously take on-line courses or participate in discussion groups.

The barrier of low receptivity can be broken by first moving to quadrant # 2. In this instance the information is still readily available, but this time the receptivity of the audience stems from their perception of need.

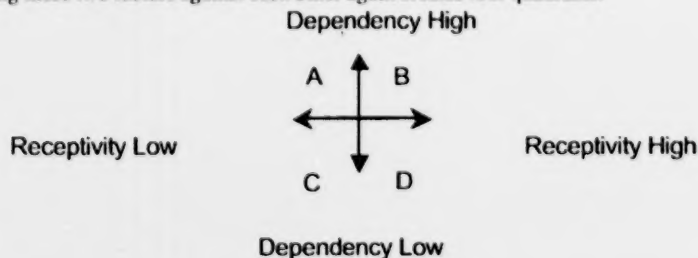
Where quadrant 2 conditions apply, people may be receptive enough to browse through web page content, since they could get access to information in their own time and according to own priority. Clearly a position of choice.

The final quadrant where there is a common receptivity, but lacking lucidity. The reason for the lacking clarity needs to be explored in order to address the problem. If the problem resides in lacking skills to access the relevant information, interventions to provide the necessary skills may be received positively.

A different approach would be apparent when the information is not available or consensus not reached. Where competence and access allows for electronic discussion, there are various virtual communities that will be able to assist in identifying solutions or options.

3.2: Receptivity and dependency

Plotting these two factors against each other again creates four quadrants.



Quadrant A is where learners typically are not receptive, but highly dependent. These people like to work in groups, prefer synchronous communication and contact.

Technological options are not likely to prove the ideal tool for the situation.

Quadrant B holds the double high. The high receptivity provides the opportunity for peer interaction and reflection activities. While this traditionally is the domain of physical contact, some technological innovations like chat rooms or video conferencing could also play a part.

Individual learners with low receptivity typify quadrant C people. Again something needs to be done to break the non-receptivity. Mettal recorded such a case.

"... ignored our services. Word soon came around that he was horrible ..., but he still avoided us. One of his friends ... suggested that he talk to me about it. ...He came over and we talked for several hours. I gave him "new perspectives" on what was happening between him and [his peers]..., etc. (Basically, I talked to him about to be a nice person.) The next semester went much better. I was shocked that such a short intervention helped, but he has thanked me several times since (Indiana, 2001) "

The last quadrant (D) in this interrelation deals with highly receptive individuals. Technology has much to offer these people. The search capabilities of computers make information available to work with at leisure. Some individual interventions

may be necessary in order to equip the individual with the skills to utilise the technological options.

"A colleague that would not touch the computer for his life now uses computers in his instruction (Louisiana, 2001).

3.3: Receptivity, Lucidity and dependency

All three these factors can be combined in one three dimensional interrelation with x, y and z axis .

The front octants containing the low dependency quadrants and the back octants containing the High dependency quadrants. This relation may assist facilitators to sufficiently analyse each particular situation in order to class it accordingly.

Attempting to assign particular technological solutions to specific combinations would limit the use of the classification to the items specifically measured and mentioned. A more inclusive and flexible understanding comes from evaluating the factors in terms of their impact on technology use.

The impact of the dependency dimension is not as important to determine whether technological solutions could be applied, but rather to inform on different options which need to be considered.

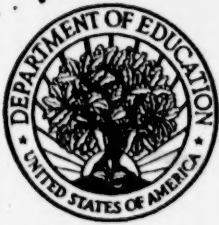
4. Conclusion:

Facilitators need to adjust to the new environment. Strategies should allow for differences in personality types and their reactions to change. The variety of new possibilities and technological options requires more than technical competence. This paper acknowledges that instructional design should be a combinational approach and calls for and proposes a framework within which the role of receptivity, lucidity and dependency could be interrelated to inform on issues that will impact on acceptance of new strategies. Technological options will find its rightful niche within the realities of modern educational practice once the current 'signal to noise ratio' has been addressed to send clear messages.

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